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08339908   SUPPLIER NUMBER: 17878334   (THIS IS THE FULL TEXT)
 On-line vs. off-line: understanding hotel **access-control**
 systems.(Technology)
Radell, Michael B.
Hotel & Motel Management, v210, n19, p98(2)
Nov 6, 1995
ISSN: 0018-6082   LANGUAGE: English   RECORD TYPE: Fulltext; Abstract
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ABSTRACT: A wide array of access control systems are available on the
market today. In general, these systems are either on-line or off-line
types. On-line access control systems are distinguished by their ability to
send data back and forth to a central location. On the other hand, off-line
systems are not connected and information exchange is accomplished
manually.

TEXT:
     RANCHO DOMINGUEZ, CALIF. - An understanding of certain terminology is
necessary in order to realize the difference between the numerous access
control systems on the market today and how their different capabilities
affect the daily operations of a **hotel** .
     Basically, there are two different types of electronic **locking**
systems available to the lodging industry: Real-time, or on-line access
control systems and stand-alone, or off-line access-control systems.
Although on the surface these two types of systems may appear similar, they
are extremely different.
     An on-line system consists of individual devices that have the
constant capability of sending information (communication data) back and
forth to a central location. The ability to send that information as it
happens is called real-time.
     A good example of a real-time on-line system is the telephone. When
calling from Los Angeles to New York, voice signals are communicated back
and forth through on-line systems in real time, as if the conversation were
taking place with a person standing beside you.
     Real-time vs. stand-alone
     In comparison, an off-line system consists of individual devices that
are not connected. Therefore, these individual devices are called
stand-alone units. Because stand-alone devices are not interconnected, they
lack the ability to communicate in real time. Any type of information
exchange between devices must be accomplished manually by walking to the
device (room/controlled door) with some sort of interrogation equipment.
     An example of an off-line system is the U.S. Postal Service. In order
to get information from Los Angeles to New York via the mail, the
information must first be written on paper. The paper must then be carried
from Los Angeles to New York. The information exchange takes place
eventually, but only through a labor-intensive process.
     With this established, these two types of electronic **locking** systems
can now be compared. At first glance the two may seem comparable because a
card is used to unlock a door with equal functionality, but a closeup
inspection will support the adage, "It's like trying to compare apples and
oranges."
     As a general rule, when comparing similar equipment, an on-line system
will provide all the features and capabilities of an off-line system and
more. Here are a few additional features:
     * An on-line system gives guests the ability to use their personal
credit card or a coded **hotel** card as their room key.
     * An on-line system can integrate with the property-management system
to streamline check-in/-out procedures. This integration is transparent to
the **hotel** guest and front-desk clerk. It eliminates all card-making

equipment at the front desk, reduces operator training time and the likelihood of errors.

* Employee-access privileges are not tied to a security access level, but rather to an individual's job responsibilities based on a management decision. **Hotel** management can quickly and easily create individual employee cards. Management can thus specify which employees can go where, and when, allowing managers to think like managers, not like **locksmiths** .

They also will experience increased productivity by using the tracing feature for employee activities and give them a one-of-a-kind job-evaluation tool not available in any other system.

* All card-readers are in real-time communications with each other via **wireless** radio frequency signals - this is a communication system with no wires between rooms or from rooms back to the central computer.

Every time an employee or guest enters a room or controlled area, the card-reader sends a record to the central computer's permanent storage. This log gives **hotel** management the ability to generate reports at the central computer showing who went where and when. The employees' activities go directly into their personal files for future review.

* If an employee attempts to enter an area at an unauthorized time, or an area for which they are not authorized at all, the card-reader will not unlock that door and a record of the attempt will be sent to the central computer.

* Changes in employee cards are made at the central computer or at a remote terminal designated for that department only.

For example, the general manager's card would probably allow access to all rooms, 24 hours a day, seven days a week. If the g.m. loses the card, the lost card can be deleted from his file and a replacement card issued in minutes.

The central computer automatically notifies all the cardreaders of the change. With an off-line system, in the event of a lost card, a trip must be made to each affected door in order to manually change the **lock** code.

* Each guestroom door has a built-in intrusion alarm. The system will alert management of a forced entry through a controlled door (opening the door by any means other than a valid card).

Management also can determine at the central computer if a **door** is not securely **locked** or has remained open longer than a predetermined amount of time. From a liability standpoint, this feature by itself warrants the use of on-line systems instead of the less expensive off-line systems.

* The system can monitor guest-room smoke detectors. If a smoke detector is activated in a guestroom, an alarm message is immediately sent to the front desk reporting the exact room that may have a problem.

* The system can provide HVAC control in the individual guestrooms. The HVAC control can consist of simple on/off control from the front desk or complete guestroom energy-management (with temperature set-backs) based on room unsold, sold and occupied conditions. These options can provide an average of 10 percent to 30 percent savings in guestroom energy consumption.

* An on-line system is linked via phone lines to a central office for 24-hour service and support. Within minutes, the supplier can diagnose any problems with the central computer of individual guestroom card-reader electronics.

* Flexibility in the design and theory of operation of the on-line system will allow it to adapt to and incorporate new technology as it evolves, such as smart cards or biometrics.

* On-line access-control systems are readily available and installed in hotels today.

These are the major operational features and benefits of an on-line system, which differentiate it from off-line/stand-alone electronic **locking** systems. Although off-line systems offer substantial improvement over traditional metal keys, they have reached the end of their evolutionary cycle due to the limitations of their design. On-line systems will replace off-line systems, just as off-line systems have replaced metal keys.

In the lodging industry, off-line electronic **locks** have made

obsolete the use of basic metal keys. But due to available and
ever-changing technology, these simple electronic **locks** are now
themselves obsolete because of on-line/real-time access control systems.
    In conclusion, on-line systems can cost-effectively address and help
reduce the two largest operational expenses of running a **hotel** - labor
and energy.
    Michael B. Radell is the sales manager for Security Innovations Inc.,
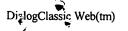an on-line access-control systems supplier.
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On-line locks **may set trend toward real-time security**
Worcester, Barbara A

ABSTRACT: Radio-frequency and infrared technologies are being used by electronic- **lock** manufacturers to provide **wireless** on-line security and control throughout hotels. On-line systems consist of individual devices that send information back and forth to a central location in real time. An on-line system can also be interacted to electronic in-room control systems to: work in tandem with individual guestroom smoke detectors to alert the front desk as to which room has a problem, providing heating, ventilation, air conditioning and lighting control for energy management, alert housekeeping to the occupancy status of a room and alert the front desk or security to a location where a door is left open or an area that has been entered by force.

TEXT: What do radio-frequency and infrared technologies have in common? They're both being used by electronic- **lock** manufacturers to provide **wireless** , on-line security and control throughout the **hotel** , including controlled areas.

It's taken the lodging industry some time, but for the most part, off-line electronic **locks** with magnetic-stripe keycards have replaced cylinder **locks** with metal keys at hotels around the world. Industry experts estimate that over the past 10 to IS years, hotels have invested $200 million in off-line electronic **locking** systems.

"From 1993 to 1997, conservatively 800,000 guestrooms have been retrofitted with magneticstripe electronic- **lock** card readers," said Joe Rook, executive v.p. for Entry Electronics, Asheville, N.C.

Technology developers are now suggesting that hotels stepup their security efforts and improve operations by moving toward on-line electronic- **locking** systems that interface with the **hotel** 's property-management and in-room energy-management systems. On-line systems, developers say, provide an added level of security, improve productivity, streamline operations and boost the **hotel** 's bottom line.

Off-line vs. on-line
Off-line **locking** systems are stand-alone devices that do not connect to any central intelligence and that do not share information in real time. Most electronic- **lock** vendors, including TESA, Computerized Security Systems, VingCard, Timelox, CISA, Ilco Unican, Nexus and Entry Electronics, manufacture off-line **locks** .

In an off-line environment, a microprocessor in each **door lock** contains a preset series of sequential codes. A console at the front desk encodes the magnetic-stripe keycard with the next code in the **locking** mechanism sequence. Each time the keycard is encoded, it moves to the next level code and blocks past codes and proceeding codes from being written to the card.

Information that needs to be retrieved from an off-line **lock** , such as the last 100 entries to a given room, is extracted manually by walking to the **door lock** and using interrogation equipment.

On-line systems consist of individual devices that send information back and forth to a central location (or a property-management system) in real time.

For example, every time a guest or employee enters a room or controlled area (pool, health club, exterior door, controlled parking), the cardreader sends a record of who accessed that door-together with the time and date of entry-to the central computer's permanent storage. This log gives **hotel** management the ability to generate reports at the central computer of exactly who went where and when.

An on-line system can also be interfaced to electronic in-room control systems to:

*work in tandem with individual guestroom smoke detectors to alert the front desk as to which room has a problem;

*provide heating, ventilation, air conditioning and lighting control for energy management;

*alert housekeeping to the occupancy status of a room by linking to a motion sensor or infrared occupancy sensor; and

*alert the front desk or security to a location where a door is left open or an area that has been entered by force.

An on-line system allows **hotel** guests to have the choice of using their personal credit card or a preencoded **hotel** card as their room key. There are no pre-set codes, making each magnetic-stripe keycard exclusive to the guest.

Whether a **hotel** is operating with an on-line or off-line electronic **lock** , both systems provide basic electronic access to guestrooms and secured areas and both provide major improvements please turn to next page over metal keys.

Electronic **lock** manufacturers have found a way, however, to turn off-line **locks** on-line by using infrared technology. Old Lyme, Conn.-based InnCom International, an integrated guestroom control systems company, is allowing off-line electronic **lock** manufacturers to piggyback off its on-line infrared in-room controls system.

InnCom combines four systems on one network-energy management, guestrooms controls, telephony and electronic **locks** , according to Michael Franklin, InnCom v.p. of business development.

Through InnCom, off-line guestroom **locks** connect to a central computer via a **wireless** infrared link. The **locks** house a tranceiver that sends and receives signals to an infrared eye in the ceiling above door. This monitors all in-room activity from a single point.
"Ihe beauty of the system is that if a **hotel** installs an infrared **door lock** , it automatically has the network in place to provide energy-management, on/off bedside controls (such as lighting, TV, drapes or HVAC) and telephony, without having to do any rewiring or purchasing of an additional system to offer those services," Franklin said. "It's cost-effective because the **hotel** is leveraging the InnCom network in any of four ways if it chooses."

For a **hotel** to convert an offline **lock** to an on-line system, it must retrofit or upgrade to an infrared **lock** and purchase the InnCom network.

The Opryland **Hotel** in Nashville was the first **hotel** to install the InnCom network with its central electronic **lock** feature. By blending VingCard's Sargent 45 stand-alone electronic infrared **lock** with the InnCom system, the **hotel** is now providing an on-line system.

"The InnCom network provides unlimited audit trail capability and real-time tracking of individual employees," Franklin said. "And, it alerts the front desk to potential security threats if a guestroom door is left open or if there's been forced entry. The system also cancels guest cards automatically at check-out, despite the scheduled expiration date."
No third party

Rancho Dominguez, Calif.based Security Innovations markets an on-line electronic **locking** system that doesn't require a third party to interface to the PMS. Called Access-Plus, the system uses radio-frequency communications to send signals from the guestroom **lock** mechanism to the central PMS.

Hotels from all market segments are using the Security Innovations on-line system: Arizona Biltmore, Phoenix; Sleep Inn, Fort Meyers, Texas; Radisson Suites, Bakersfield, Calif.; Travelers Inn, Palm Desert, Calif; and the Clarion **Hotel** & Casino in Reno, Nev., to name a few.

Like InnCom, Access-Plus has the technology in place to provide complete energy-management and alarm monitoring functionality. No additional wiring is necessary to activate the energy features.

Unlike the **wireless** communications provided by infrared and radio-frequency technology, Montreal-based Ilco Unican markets a hard-wired on-line electronic **locking** system. The hard-wired **lock** is installed at the Mirage in Las Vegas, The Plaza in New York, Little America Hotels and the L'Ermitage **Hotel** in Beverly Hills.
Tom Caudill, national sales manager for Ilco Unican, said that with a hard-wired system, hoteliers don't run the risk of interference from structural conditions that may block RF or infrared frequencies.

Experts say that while interfacing to the PMS is a benefit for hotels looking to harness information in real-time, on-line technology is more expensive and the return on investment may not come as quickly as **hotel** managers would expect. Therefore, the idea of another upgrade in **locking** technology may not be met with open arms.

"The industry has invested too much in [off-line] technology to change out any time soon," Entry Electronics' Rook said.

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GEOGRAPHIC NAMES: US

DESCRIPTORS: Hotels & motels; Security management; Security systems; Radio
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CLASSIFICATION CODES: 9190 (CN=United States); 8380 (CN=Hotels &
     restaurants); 5250 (CN=Telecommunications systems); 5140 (CN=Security)
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1	1	HOTEL adj CHECK-IN.ti. and WIRELESS adj COMMUNICATION.ti.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/03/02 13:11
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3	2	5979754.URPN.	USPAT	2004/03/02 13:08
4	3	6259352.URPN.	USPAT	2004/03/02 13:10
5	4	("5046084" | "5146217" | "5247160" | "5614703").PN.	USPAT	2004/03/02 13:10
6	5	("3801742" | "4209782" | "5046084" | "5089692" | "5146217").PN.	USPAT	2004/03/02 13:10
7	1	HOTEL adj CHECK-IN.ti. and WIRELESS adj COMMUNICATION	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/03/02 13:11
8	2	HOTEL and CHECK-IN.ti. and WIRELESS adj COMMUNICATION	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/03/02 13:12
9	4	HOTEL and CHECK-IN.ab. and WIRELESS adj COMMUNICATION	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/03/02 13:14
10	6	HOTEL and CHECK-IN.ab. and WIRELESS and lock$5	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/03/02 13:15
11	9	HOTEL.ti. and WIRELESS and lock$5	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/03/02 13:17
12	44	HOTEL.ab. and WIRELESS and lock$5	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/03/02 13:22
13	1	HOTEL and WIRELESS adj lock$5	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/03/02 13:32
14	47	WIRELESS adj lock$5	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/03/02 13:51
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Set      Items   Description
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S2         13    RD (unique items)
S3         30    WIRELESS(W5)LOCK AND HOTEL
S4         20    RD (unique items)
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Set      Items    Description
S1         0      WIRELESS(W2)LOCK AND HOTEL
S2         0      RD (unique items)
S3         1      WIRELESS(W5)LOCK AND HOTEL
S4         1      RD (unique items)
?
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